

Journal of Neurochemistry

Official Journal of the
International Society for Neurochemistry

Volume 39
July–December 1982

RAVEN PRESS

1140 Avenue of the Americas/New York, New York 10036

JOURNAL OF NEUROCHEMISTRY

CHIEF EDITORS

H. S. Bachelard, *Department of Biochemistry, St. Thomas's Hospital Medical School, London SE1 7EH U.K.*

W. T. Norton, *Department of Neurology, Albert Einstein College of Medicine, 1300 Morris Park Avenue Bronx, NY 10461, U.S.A.*

DEPUTY CHIEF EDITORS

B. W. Agranoff, *Neurosciences Laboratory, University of Michigan, 1103 East Huron Street, Ann Arbor, MI 48104, U.S.A.*

M. H. Aprison, *Institute of Psychiatric Research, Indiana University School of Medicine, 1100 West Michigan Street, Indianapolis, IN 46223, U.S.A.*

F. Fonnum, *Norwegian Defence Research Establishment, Division of Toxicology, P.O. Box 25, N-2007 Kjeller, Norway*

R. W. Ledeen, *Department of Neurology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461, U.S.A.*

R. E. Martenson, *Laboratory of Cerebral Metabolism, Building 36, Room #1A-27, National Institutes of Health, Bethesda, MD 20205, U.S.A.*

K. F. Tipton, *Department of Biochemistry, Trinity College, University of Dublin, Dublin 2, Ireland*

EDITORIAL BOARD

S. H. Appel (*Houston, TX*)
R. L. Barchi (*Philadelphia, PA*)
E. A. Barnard (*London*)
C. F. Baxter (*Sepulveda, CA*)
N. G. Bazan (*New Orleans, LA*)
S. Berl (*New York, NY*)
J. P. Blass (*White Plains, NY*)
E. Bock (*Copenhagen*)
A. Boulton (*Saskatoon*)
M. J. Brammer (*London*)
P. R. Carnegie (*Victoria*)
B. Collier (*Montreal*)
J. R. Cooper (*New Haven, CT*)
C. Cotman (*Irvine, CA*)
M. Cuénod (*Zurich*)
G. Curzon (*London*)
I. Diamond (*San Francisco, CA*)
T. E. Duffy (*New York, NY*)
Y. Dunant (*Geneva*)
P. Emson (*Cambridge*)
L. F. Eng (*Palo Alto, CA*)
H. Gainer (*Bethesda, MD*)
G. Gombos (*Strasbourg*)
D. I. Gottlieb (*St. Louis, MO*)

A. Hamberger (*Göteborg*)
M. Hamon (*Paris*)
B. Hamprecht (*Würzburg*)
G. Hauser (*Belmont, MA*)
F. A. Henn (*Iowa City, IA*)
L. Heftz (*Saskatoon*)
J. G. Hildebrand (*New York, NY*)
L. Horrocks (*Columbus, OH*)
T. Johnson (*Manhattan, KS*)
S. Kakiuchi (*Osaka*)
J. N. Kanfer (*Winnipeg*)
M. J. Kuhar (*Baltimore, MD*)
M. Kurokawa (*Tokyo*)
M. B. Lees (*Waltham, MA*)
L. Lim (*London*)
G. G. Lunt (*Bath*)
R. M. Marchbanks (*London*)
R. U. Margolis (*New York, NY*)
J. Massoulié (*Paris*)
W. O. McClure (*Los Angeles, CA*)
B. S. McEwen (*New York, NY*)
E. McGeer (*Vancouver*)
P. Morell (*Chapel Hill, NC*)
D. Morris (*Southampton*)

S. J. Morris (*Bethesda, MD*)
S. R. Nahorski (*Leicester*)
M. Otsuka (*Tokyo*)
H. M. Pappius (*Montreal*)
J. V. Passonneau (*Bethesda, MD*)
G. Porcellati (*Perugia*)
S. B. Prusiner (*San Francisco, CA*)
R. H. Quarles (*Bethesda, MD*)
J. A. Richter (*Indianapolis, IN*)
P. J. Roberts (*Southampton*)
K. Sandhoff (*Bonn*)
J. C. Schwartz (*Paris*)
D. F. Sharman (*Babraham*)
M. L. Shelanski (*New York, NY*)
M. E. Smith (*Palo Alto, CA*)
J. Storm-Mathisen (*Oslo*)
H. Thoenen (*Martinsried*)
S. Tucek (*Praha*)
C. Van den Berg (*Groningen*)
S. Varon (*La Jolla, CA*)
M. Voaden (*London*)
N. Weiner (*Denver, CO*)
E. Yavin (*Rehovot*)
C. Zomzely-Neurath (*Honolulu, HI*)

INTERNATIONAL SOCIETY FOR NEUROCHEMISTRY PUBLICATIONS COMMITTEE

M. H. Aprison (*Indianapolis, IN*)
H. S. Bachelard (*Ex-Officio, London*)
N. G. Bazan (*New Orleans, LA*)
L. Iversen (*Cambridge*)
T. Kato (*Tokyo*)

P. A. Kometiani (*Tbilisi*)
E. Kvamne (*Ex-Officio, Oslo*)
P. Mandel (*Strasbourg*)
W. T. Norton (*Ex-Officio, New York, NY*)
G. Porcellati (*Ex-Officio, Perugia*)

E. M. Shooter (*Stanford, CA*)
L. Sokoloff (*Bethesda, MD*)
K. Suzuki (*New York, NY*)
L. S. Wolfe (*Montreal*) (*Chairperson*)

PUBLICATION AND ADVERTISING STAFF, RAVEN PRESS, NEW YORK

David A. Christie
Production Manager

Mary Ellen Brehm
Assistant Production Editor

Gretchen Berg
Secretary

Judy S. Kessler
Advertising Manager

Journal of Neurochemistry (ISSN 0022-3042) is published monthly by Raven Press, 1140 Avenue of the Americas, New York, NY 10036. Second class postage paid at New York, N.Y. and at additional mailing offices. Subscription rates for 1982 (Vols. 38 and 39): members of International Society for Neurochemistry, \$57; institutional subscriptions, \$485; rate to any individual whose institutional library is a subscriber in 1982, \$168. Single copies, \$41. Air delivery included for European and Mediterranean countries; for air service elsewhere add \$96. Payment should accompany all orders. Please enclose present mailing label with all change of address requests. Address all advertising inquiries to Advertising Manager, Raven Press. Copyright © 1982 International Society for Neurochemistry Ltd. Postmaster: Send change of address to Subscription Department, Raven Press, 1140 Avenue of the Americas, New York, NY 10036. For additional copyright information, see back of issue.

CONTENTS

i Instructions to Authors—1982

SHORT REVIEWS

- 1 Cell Type-Specific Surface Antigens in the Mammalian Nervous System
Melitta Schachner

- 9 Biochemistry of Alzheimer's Dementia
R. M. Marchbanks

REGULAR ARTICLES

- 16 Synthesis of Acetylcholine from Acetate in a Sympathetic Ganglion
Y. N. Kwok and B. Collier

- 27 Different Polypeptides Are Rapidly Transported in Auditory and Optic Neurons
R. J. Wenthold and M. L. McGarvey

- 36 Bioluminescent Assay of Total and Brain-Specific Creatine Kinase Activity in Cerebrospinal Fluid
Tuija Halonen, Veikko Nantö, Harry Frey, and Timo Lövgren

- 44 Effects of Drugs Interfering with Dopamine and Noradrenaline Biosynthesis on the Endogenous 3,4-Dihydroxyphenylalanine Levels in Rat Brain
B. H. C. Westerink, T. P. van Es, and S. J. Spaan

- 52 Binding of [³H]γ-Aminobutyric Acid and [³H]Muscimol in Purified Rat Brain Synaptic Plasma Membranes and the Effects of Bicuculline
C. C. Jordan, A. I. Matus, W. Piotrowski, and Diane Wilkinson

- 59 Neuroblastoma × Glioma Hybrid Cells Synthesize Enkephalin-Like Opioid Peptides
Thomas Glaser, Karin Hübner, and Bernd Hamprecht

- 70 Ouabain-Sensitive and Ouabain-Resistant Net Uptake of Potassium into Astrocytes and Neurons in Primary Cultures
Wolfgang Walz and Leif Hertz

- 78 Derepression of the Glutamine Synthetase in Neuroblastoma Cells at Low Concentrations of Glutamine
Lucille Lacoste, Kapil Dev Chaudhary, and Jacques Lapointe

- 86 Monoamine Synthesis and Concentration in Neonatal Rat Brain During Hypercapnia and Recovery
T. Hedner and P. Lundborg

- 92 Effects of N⁶-Methyladenosine on the Synthesis of Phenylethanolamine

N-Methyltransferase in Cultured Explants of Rat Adrenal Medulla
William J. Burke and Tong H. Joh

- 97 Susceptibility of the Myelin-Associated Glycoprotein and Basic Protein to a Neutral Protease in Highly Purified Myelin from Human and Rat Brain
Shuzo Sato, Richard H. Quarles, and Roscoe O. Brady

- 106 Substance P Hydrolysis by Human Serum Cholinesterase
Oksana Lockridge

- 111 Relationship Between Regional Brain Angiotensinogen and Local Blood Flow and Volume in the Adrenalectomized Rat: Application of Approach to Quantification of Brain Corticosterone Receptors
Cleatus J. Wallis, Timothy J. Gregory, and Morton P. Printz

- 117 Heterogeneity of the S-100 Protein Specific Binding Sites in Synaptosomal Particulate Fractions and Subfractions
Rosario Donato

- 125 The Specific Interaction of S-100 Protein with Synaptosomal Particulate Fractions. Modulation of Binding by Fractional Occupancy of Sites and by the Physical State of Membranes
Rosario Donato

- 132 ²²Na⁺ Uptake and Catecholamine Secretion by Primary Cultures of Adrenal Medulla Cells
Christopher Amy and Norman Kirshner

- 143 Dynorphin-Related Opioid Peptides in the Neurointermediate Pituitary of Rats Are Not α-N-Acetylated
Bernd R. Seizinger, Volker Höllt, and Albert Herz

- 149 Met-Enkephalin [Arg⁶,Phe⁷] Immunoreactivity in Bovine Caudate and Bovine Adrenal Medulla
Michael R. Boarder, Alexandre J. Lockfeld, and Jack D. Barchas

- 155 Sidedness of Phospholipid Synthesis on Brain Membranes
Madeline Butler and Pierre Morell

- 165 Adenosine Receptors Mediating Cyclic AMP Production in the Rat Hippocampus
Bertil B. Fredholm, Bror Jonzon, Eva Lindgren, and Karin Lindström

- 176 *In Vitro* Release of Endogenous β-Alanine, GABA, and Glutamate, and

Electrophysiological Effect of
 β -Alanine in Pigeon Optic Tectum
*Gerhard Toggenburger, Dominik Felix,
 Michel Cuénod, and Hermann Henke*

- 184 [^3H]Nitrobenzylthioinosine Binding as a
 Probe for the Study of Adenosine
 Uptake Sites in Brain
*P. J. Marangos, J. Patel,
 R. Clark-Rosenberg, and A. M. Martino*
- 192 Metabolism of Phospholipids in
 Peripheral Nerve from Rats with
 Chronic Streptozotocin-Induced
 Diabetes: Increased Turnover
 of Phosphatidylinositol-4,5-Bisphosphate
*Margaret E. Bell, Richard G. Peterson,
 and Joseph Eichberg*
- 201 Galactosyltransferase Defects in Reeler
 Mouse Brains
Barry D. Shur
- 210 Alanine Aminotransferase in Bovine
 Brain: Purification and Properties
*Michal Ruščák, Jozef Orlický,
 Vladimír Žubor, and Hermann Hager*
- 217 Dopamine Inhibition of the Release of
 Endogenous Acetylcholine from Corpus
 Striatum and Cerebral Cortex in Tissue
 Slices and Synaptosomes:
 A Presynaptic Response?
*J. de Belleruche, J. Coutinho-Netto, and
 H. F. Bradford*
- 223 Rapid Migration of Inositol Phospholipids
 with Axonally Transported Substances
 in the Rabbit Optic Pathway
*M. Alberghina, J. O. Karlsson, and
 A. M. Giuffrida*
- 228 Pharmacological and Electrophysiological
 Characterization of Lithium Ion Flux
 Through the Action Potential Sodium
 Channel in Neuroblastoma \times
 Glioma Hybrid Cells
G. Reiser, F. Scholz, and B. Hamprecht
- 235 Effects of Chloral Hydrate,
 γ -Butyrolactone, and Equithesin on the
 Efflux of Dopamine and
 5-Hydroxytryptamine Metabolites into
 Cerebroventricular Perfusates of Rats
J. A. Nielsen and K. E. Moore
- 239 Carbon Balance Studies of Glucose
 Metabolism in Rat Cerebral
 Cortical Synaptosomes
Ulrike Bauer and Karl Brand
- Detecting Acetylcholine
Maurice Israël and Bernard Lesbats
- 251 EDTA Inhibits *In Vitro* Increases in the
 GABA Content of Human CSF
Wolfgang Löscher and Ian Ahnfelt-Rønne
- 255 Local Cerebral Glucose Utilization in
 Hypothermic and Hyperthermic Rats
*James McCulloch, Helen E. Savaki,
 Jane Jehle, and Louis Sokoloff*
- 259 Increased Salsolinol Levels in Rat
 Striatum and Limbic Forebrain
 Following Chronic Ethanol Treatment
*Birgitta Sjöquist, Sture Liljequist, and
 Jörgen Engel*
- 263 Microvessels from the Spinal Cord:
 Isolation Procedure and
 Characterization of the Fraction
Ferenc Joó, Ernő Dux, and Attila Szűcs
- 267 Ontogeny of Adenosine Binding Sites in
 Rat Forebrain and Cerebellum
P. J. Marangos, J. Patel, and J. Stivers
- 271 A Novel Inhibitor of
 Gamma-Aminobutyrate
 Aminotransferase with
 Anorectic Activity
*H. L. White, J. L. Howard, B. R. Cooper,
 F. E. Soroko, J. D. McDermid,
 K. J. Ingold, and R. A. Maxwell*
- 274 Maturation of Potassium-Stimulated
 Respiration in Rat Cerebral
 Cortical Slices
*David Holtzman, James Olson,
 Scott Zamvil, and Hung Nguyen*
- 277 Retinal Gangliosides in RCS Mutant Rats
*Thomas N. Seyfried, Robert K. Yu,
 Nobuko Miyazawa, and Yin-Lok Lai*
- 280 Adenosine Measurement by a Rapid
 HPLC-Fluorometric Method: Induced
 Changes of Adenosine Content in
 Regions of Rat Brain
W. J. Wojcik and N. H. Neff
- 283 Postnatal Development of the Light
 Response of the Dopaminergic Neurons
 in the Rat Retina
William W. Morgan and Cylia W. Kamp
- 286 Acyl-CoA: *sn*-Glycerol-3-Phosphate
O-Acyltransferase in Rat Brain
 Mitochondria and Microsomes
*Susan M. Fitzpatrick, Giovanna Sorresso,
 and Dipak Haldar*
- 290 Role of Neuronal Signal Input in the
 Down-Regulation of Central
 Noradrenergic Receptor Function by
 Antidepressant Drugs
*Aaron Janowsky, Larry R. Steranka,
 David D. Gillespie, and Fridolin Sulser*

SHORT COMMUNICATIONS

- 244 The Relationship of Myelin Basic Protein
 (Arginine) Methyltransferase to
 Myelination in Mouse Spinal Cord
A. J. Crang and W. Jacobson
- 248 Application to Mammalian Tissues of the
 Chemiluminescent Method for
- 293 BOOK REVIEWS
- 295 ANNOUNCEMENTS
- 295 CORRECTION
- 296 CALENDAR OF EVENTS

- 99 Fatty Acid Activation and Temperature Perturbation of Rat Brain Microsomal Phospholipase D
Robert Chalifour and Julian N. Kanfer
- 06 Biogenic Aldehyde Metabolism in Rat Brain: Subcellular Distribution of Aldose Reductase and Valproate-Sensitive Aldehyde Reductase
Anthony J. Turner, Susan R. Whittle, John Hryszko, and S. R. Guha
- 10 Postnatal Changes in Enzyme Activities in Synaptosomes Isolated from Hamster Optic Nerve Endings
Susan C. Specht
- 15 Sciatin Is a Transferrin-Like Polypeptide
George J. Markelonis, Ralph A. Bradshaw, Tae H. Oh, Jeri L. Johnson, and Owen J. Bates
- 21 Neurochemical Characterization of an Antimony-Choline Analog in Rat Cortical Synaptosomes
Edwin M. Meyer, Russell J. Barnett, and Jack R. Cooper
- 27 Influence of Calcium on Dopamine Synthesis and Tyrosine Hydroxylase Activity in Rat Striatum
Gregory Kapatos and Michael J. Zigmond
- 36 Induction of Glutamine Synthetase by Dibutyl Cyclic AMP in C-6 Glioma Cells
Edward T. Browning and William J. Nicklas
- 342 Transsynaptic Regulation of Olfactory Bulb Catecholamines in Mice and Rats
T. Kawano and F. L. Margolis
- 349 Effects of Cyclic AMP Analogues and Phosphodiesterase Inhibitors on K⁺-Induced [³H]Noradrenaline Release from Rat Brain Slices and on Its Presynaptic α -Adrenergic Modulation
Johan Wemer, Anton N. M. Schoffemeer, and Arie H. Mulder
- 357 HPLC Analysis of Neurophysin Proteins from Neurosecretory Granules
P. Schwandt, W. O. Richter, and E. Reuschel-Janetschek
- 360 Increased Nervous System-Specific Enolases in Rat Plasma and Cerebrospinal Fluid in Bilirubin Encephalopathy Detected by an Enzyme Immunoassay
Reiji Semba and Kanefusa Kato
- 366 Partial Purification and Characterization of Messenger RNA Coding 14-3-2 Protein from Rat Brain
K. Sakimura, K. Araki, E. Kushiya, and Y. Takahashi
- 371 Evidence That the Synaptic Phosphoprotein B-50 Is Localized Exclusively in Nerve Tissue
G. I. Kristjansson, H. Zwiers, A. B. Oestreicher, and W. H. Gispen
- 379 Biphasic Effect of Eserine and Other Acetylcholinesterase Inhibitors on the Nicotinic Response to Acetylcholine in Cultured Adrenal Chromaffin Cells
Fumio Mizobe and Bruce G. Livett
- 386 Local Protein Synthesizing Activity in Axonal Fields Regenerating *In Vitro*
E. Koenig and P. Adams
- 401 Peripheral Nerve Phospholipid Composition: Development in Normal Nerve and Age-Dependent Changes in Wallerian Degenerated Nerve
John H. Hofteig, Phung N. Vo, Allan J. Yates, and Karen S. Leon
- 409 Tyrosine Hydroxylase from Bovine Striatum: Catalytic Properties of the Phosphorylated and Nonphosphorylated Forms of the Purified Enzyme
Mitchell A. Lazar, Alexandre J. Lockfeld, Roger J. W. Truscott, and Jack D. Barchas
- 423 Evidence for Glucocorticoid Target Cells in the Rat Optic Nerve. Hormone Binding and Glycerolphosphate Dehydrogenase Induction
Jerrold S. Meyer, Paula J. Leveille, Jean de Vellis, John L. Gerlach, and Bruce S. McEwen
- 435 Evidence for Glucocorticoid Target Cells in the Rat Optic Nerve. Physicochemical Characterization of Cytosol Binding Sites
Jerrold S. Meyer and Bruce S. McEwen
- 443 Comparison of Axonal Transport of Cytoplasmic- and Particulate-Associated Tubulin in Rat Optic System
Jeffrey F. Goodrum and Pierre Morell
- 452 Effects of the Convulsant Methionine Sulfoximine on Striatal Dopamine Metabolism
Jeffrey D. Rothstein and Boris Tabakoff
- 458 Effects of Septal Lesions on Enzymes of Acetyl-CoA Metabolism in the Cholinergic System of the Rat Hippocampus
Andrzej Szutowicz, Paul A. Srere, Charles N. Allen, and Isaac L. Crawford
- 464 Lipid and Protein Alterations of Spinal Cord and Cord Myelin of Multiple Sclerosis
Robert K. Yu, Kunihiro Ueno, Gilbert H. Glaser, and Wallace W. Tourtellotte

- 478 The Phosphorylation of Proteins in Hippocampal Slices: Effects of Noradrenaline and of Pretreatment with Kainic Acid
Raphael Hofstein and Menachem Segal
 - 486 Schwann Cell Surface Proteins and Glycoproteins
David Pleasure, Mattie Hardy, Barbara Kreider, Janet Stern, Hung Doan, Sandra Shuman, and Spencer Brown
 - 493 5-Hydroxytryptamine Stimulates [³H]Dopamine Release from the Fish Retina
S. Kato, T. Teranishi, C. H. Kuo, and K. Negishi
 - 499 Synaptosomal Calcium Uptake Systems: Prostaglandins Are Probably Not Involved in the Regulation of Calcium Fluxes Into and Within the Nerve Endings
Claudio Denzlinger, Georg Hertting, and Rolf Jackisch
 - 507 Purification and Chemical Characterization of a W2 Protein from Brain Myelin
J. A. Reig, J. M. Ramos, M. Cozar,¹¹ J. S. Aguilar, M. Criado, and J. Monreal
 - 512 Competition by Estrogens for Catecholamine Receptor Binding *In Vitro*
Charles M. Paden, Bruce S. McEwen, Jack Fishman, Lenore Snyder, and Valerie DeGross
 - 521 Agonist Regulation of Muscarinic Acetylcholine Receptors in Rat Spinal Cord
John E. Taylor, Tony L. Yaksh, and Elliott Richelson
 - 525 Alterations of Brain Cholecystokinin Receptors in Mice Made Obese with Goldthioglucose
Atsushi Saito, John A. Williams, Samuel H. Waxler, and Ira D. Goldfine
 - 529 Purification and Mode of Action of Synexin: A Protein Enhancing Calcium-Induced Membrane Aggregation
Stephen J. Morris, John M. X. Hughes, and Victor P. Whittaker
 - 537 $\alpha\gamma$ -Enolase in the Rat: Ontogeny and Tissue Distribution
Ole Steen Jørgensen and Gyda Centervall
 - 543 Biochemical and Electrophysiological Demonstrations of the Actions of β -Bungarotoxin on Synapses in Brain
J. V. Halliwell, C. K. Tse, J. W. Spokes, I. Othman, and J. O. Dolly
 - 551 Studies on Cerebellar Haem Metabolism in the Rat *In Vivo*
Francesco De Matteis and David E. Ray
 - 557 Effects of Pentobarbitone on ⁴⁵Ca²⁺ Transport by Rat Brain Mitochondria
Max Willow and Fyfe L. Bygrave
 - 563 Tissue, Subcellular, and Submitochondrial Distributions of Semidehydroascorbate Reductase: Possible Role of Semidehydroascorbate Reductase in Cofactor Regeneration
Emanuel J. Diliberto, Jr., Grace Dean, Charles Carter, and Pamela L. Allen
 - 569 Cyclic Nucleotides and the Release of Vasopressin from the Rat Posterior Pituitary Gland
Marcus R. Vale and Derek B. Hope
- SHORT COMMUNICATIONS
- 574 An Evaluation of γ -Glutamyl Dipeptide Derivatives as Antagonists of Amino Acid-Induced Na⁺ Fluxes in Rat Striatum Slices
N. Tal, O. Goldberg, A. Luini, and V. I. Teichberg
 - 577 Comparative Microdistribution of the Activity of Catecholamine-Synthesizing Enzymes in Horizontal Sections of the Rat Lower Brainstem
Geneviève Chamba, Luc Denoroy, and Bernard Renaud
 - 582 *In Vivo* Changes in γ -Aminobutyric Acid Output from the Cerebral Cortex Induced by Inhibitors of γ -Aminobutyric Acid Uptake and Metabolism
F. Moroni, A. Mulas, G. Moneti, and G. Pepeu
 - 585 Rate and Duration of Stimulation Determine Presynaptic Effects of Haloperidol on Dopaminergic Neurons
Irene S. Hoffmann and Luigi X. Cubeddu
 - 589 Postmortem Stability of Enzymes Detoxifying Peroxide in Brain
Timothy S. Brannan, Howard S. Maker, and Mitchell Bernstein
 - 592 Effect of Chronic Lead Ingestion by Rats on Glucose Metabolism and Acetylcholine Synthesis in Cerebral Cortex Slices
Gerald H. Sterling, Kevin J. O'Neill, Mary R. McCafferty, and John J. O'Neill
 - 597 BOOK REVIEWS
 - 599 CALENDAR OF EVENTS

- 01 Identification and Characterization of Sulfhydryl-Containing Proteolytic Fragments Involved in the Ca^{2+} -Induced Conformational Change of Beef Brain S-100
H. Nika, K. G. Haglid, A. Wroński, and H.-A. Hansson
- 13 Effects of the Putative GABAergic Agonists, Muscimol and THIP, upon Local Cerebral Glucose Utilisation
Paul A. T. Kelly and James McCulloch
- 25 Ascorbic Acid in Neural Tissues
C. C. Kratzig, J. D. Kelly, and B. A. Oelrichs
- 28 Inhibition of Aldehyde Dehydrogenases in Rat Brain and Liver by Disulfiram and Coprine
Hans Pettersson and Olof Tottmar
- 35 Relationship Between Ca^{2+} Uptake and Catecholamine Secretion in Primary Dissociated Cultures of Adrenal Medulla
Ronald W. Holz, Ruth A. Senter, and Roy A. Frye
- 47 Subclasses of Adenosine Receptors in Brain Membranes from Adult Tissue and from Primary Cultures of Chick Embryo
Eugene M. Barnes, Jr. and K. George Thampy
- 53 Potassium-Stimulated Release of Radiolabelled Taurine and Glycine from the Isolated Rat Retina
L. F. P. Smith and C. J. Pycock
- 59 Opiate Receptor: Multiple Effects of Metal Ions
W. Sadée, A. Pfeiffer, and A. Herz
- 68 Acetylcoenzyme A and Acetylcholine in Slices of Rat Caudate Nuclei Incubated with (-)-Hydroxycitrate, Citrate, and EGTA
Jan Řičný and Stanislav Tuček
- 74 Inhibition, by 2-Oxo Acids That Accumulate in Maple-Syrup-Urine Disease, of Lactate, Pyruvate, and 3-Hydroxybutyrate Transport Across the Blood-Brain Barrier
Jill E. Cremer, Hazel M. Teal, and Vincent J. Cunningham
- 78 Soluble Spiroperidol Binding Factors from Bovine Caudate Nucleus
M. H. Winkler and S. Berl
- 83 Characterization of Infant Rat Cerebral Cortical Membrane Proteins Phosphorylated *In Vivo*: Identification of the ACTH-Sensitive Phosphoprotein B-50
A. B. Oestreicher, H. Zwiers, W. H. Gispen, and S. Roberts
- 693 Lysoplasmalogenase—A Microsomal Enzyme from Rat Brain
Johannes Gunawan and Hildegard Debuch
- 700 Adenosine Receptor Agonists Inhibit K^{+} -Evoked Ca^{2+} Uptake by Rat Brain Cortical Synaptosomes
P. H. Wu, J. W. Phillis, and D. L. Thierry
- 709 Accumulation of Glucosylceramide and Glucosylsphingosine (Psychosine) in Cerebrum and Cerebellum in Infantile and Juvenile Gaucher Disease
Olle Nilsson and Lars Svennerholm
- 719 Concanavalin A Receptors Associated with Rat Brain Synaptic Junctions Are High Mannose-Type Oligosaccharides
James W. Gurd and Sheung Chun Fu
- 726 Demonstration of Conjugated Dopamine in Monkey CSF by Gas Chromatography-Mass Spectrometry
M. A. Elchisak, K. H. Powers, and M. H. Ebert
- 729 Kinetic Studies of Mouse Brain Transketolase
John P. Blass, Silvia Piacentini, Eva Boldizar, and Andrea Baker
- 734 Immunocytochemical and Biochemical Analysis of Carbonic Anhydrase in Primary Astrocyte Cultures from Rat Brain
H. K. Kimelberg, P. E. Stieg, and J. E. Mazurkiewicz
- 743 Serine Transhydroxymethylase Activity in Vertebrate Retina
P. Dasgupta and A. Narayanaswami
- 747 Changes in Acetylcholinesterase Molecular Forms During the Embryonic Development of *Torpedo marmorata*
Veit Witzemann and Catherine Boustead
- 756 Altered Ontogenesis of Muscarinic Receptors in Agranular Cerebellar Cortex
Hermona Soreq, David Gurwitz, Daniel Eliyahu, and Mordechai Sokolovsky
- 764 The Synthesis, Storage, and Release of Propionylcholine by the Electric Organ of *Torpedo marmorata*
S. O'Regan
- 773 Myelin Gangliosides in Vertebrates
Frederick B. Cochran, Jr., Robert K. Yu, and Robert W. Ledeen
- 780 MgATP-Stimulated Release of Luteinizing Hormone Releasing Hormone from Isolated Hypothalamic Granules: Evidence for a Selective Requirement for Monovalent Cations
G. Howard Burrows and Ayalla Barnea

- 788 Identification of Actin in Highly Purified Synaptic Vesicles from the Electric Organ of *Torpedo marmorata*
Kasper Zechel and Herbert Stadler
 - 796 The Influence of Bicuculline-Induced Seizures on Free Fatty Acid Concentrations in Cerebral Cortex, Hippocampus, and Cerebellum
Bo K. Siesjö, Martin Ingvar, and Eva Westerberg
 - 803 4-Aminobutyraldehyde Dehydrogenase Activity in Rat Brain
Kozue Tago, Susumu Kurioka, and Makoto Matsuda
 - 810 Inhibition of Human Brain Aldose Reductase and Hexonate Dehydrogenase by Alrestatin and Sorbinil
Margaret M. O'Brien, Philip J. Schofield, and Michael E. Edwards
 - 815 Isolation from Cholinergic Synapses of a Protein That Binds to Membranes in a Calcium-Dependent Manner
J. H. Walker
 - 824 Metabolism of Deoxyuridine in Rabbit Brain
Suleiman A. Suleiman and Reynold Spector
 - 831 Regional Mapping of Neostriatal Neurotransmitter Systems as a Function of Aging
R. Strong, T. Samorajski, and Zehava Gottesfeld
 - 837 Localization and Mechanism of Thymidine Transport in the Central Nervous System
Reynold Spector and William G. Berlinger
 - 842 Characterization of Glutamic Acid Decarboxylase Activity in Cerebral Blood Vessels
Edith Hamel, Diana N. Krause, and Eugene Roberts
 - 850 Effect of Nipecotic Acid, a γ -Aminobutyric Acid Transport Inhibitor, on the Turnover and Release of γ -Aminobutyric Acid in Rat Cortical Slices
John C. Szerb
 - 859 The Effect of Some Precursor Amino Acids and Enzyme Inhibitors on the Mouse Striatal Concentration of Tyramines and Homovanillic Acid
A. V. Juorio and A. A. Boulton
 - 864 γ -Aminobutyric Acid and Benzodiazepine Binding Sites in Audiogenic Seizure-Susceptible Mice
R. W. Horton, S. A. Prestwich, and B. S. Meldrum
- SHORT COMMUNICATIONS
- 871 Acetylarsenocholine: A Cholinergic Agonist
Britta Hedlund, Harald Norin, Alex Christakopoulos, Peteris Alberts, and Tamas Bartfai
 - 874 Antiganglioside Antibodies Inhibit Neuritic Outgrowth from Regenerating Goldfish Retinal Explants
Nurit Spirman, Ben-Ami Sela, and Michal Schwartz
 - 878 Postnatal Development of Noradrenaline and 3-Methoxy-4-Hydroxyphenylethyleneglyco Sulphate Levels in Rat Brain Regions
Yasuko Kohno, Masatoshi Tanaka, Ryoichi Nakagawa, Yoshishige Ida, Kenichiro Iimori, and Nobuyuki Nagasaki
 - 882 Calcium Requirement for Fast Axonal Transport in Frog Motoneurons
L. Larivière and P.-A. Lavoie
 - 887 Demonstration of 2',3'-Cyclic Nucleotide 3'-Phosphohydrolase in Cultured Human Schwann Cells
N. Bojji Reddy, Valerie Askanas, and W. King Engel
 - 890 [^3H]Spiperone Labels Non-Cyclase-Linked Dopamine Receptors in the Ventral Tegmental Area of Rat Brain
A. L. Gundlach, D. McDonald, and P. M. Beart
 - 895 Neuritogenic Determinant of Bovine P_2 Protein in Peripheral Nerve Myelin
Keiichi Uyemura, Masaru Suzuki, Kunio Kitamura, Kayoko Horie, Yoshihiro Ogawa, Haruo Matsuyama, Sukekatsu Nozaki, and Ichiro Muramatsu
 - 899 BOOK REVIEW
 - 901 CALENDAR OF EVENTS
 - 902 ANNOUNCEMENT

- 903 Na^+, K^+ -ATPase and Mg^{2+} -ATPase Activities in Different Regions of Rat Brain During Alloxan Diabetes
C. S. K. Mayanil, S. M. I. Kazmi, and N. Z. Baquer
- 909 Purification and Characterization of Posterior Pituitary Calmodulin and Its Activation of Neurosecretosome $\text{Ca}^{2+} + \text{Mg}^{2+}$ -ATPase Activities
R. M. Sheaves, D. Bowman, and D. B. Hope

- 5 Brain Maturation Following Administration of Phenobarbital, Phenytoin, and Sodium Valproate to Developing Rats or to Their Dams: Effects on Synthesis of Brain Myelin and Other Subcellular Membrane Proteins
Philip N. Patsalos and Richard C. Wiggins
- 24 Isolation of Cell Surface Membranes from Cultured C6 Glioblastoma Cells
Horst Will, Alexander Benenson, Ginette Devilliers, and Paul Mandel
- 33 An Analysis of GABA Receptor Changes in the Discrete Regions of Mouse Brain After Acute and Chronic Treatments with Morphine
Subbiah P. Sivam, Toshitaka Nabeshima, and Ing K. Ho
- 40 Density-Dependent Changes in Gangliosides and Sialidase Activity of Murine Neuroblastoma Cells
C.-L. Schengrund and M. A. Repman
- 48 Products of Cultured Neuroglial Cells. III. Release of an 85,000 Molecular Weight Glycoprotein by C6 Glioma Cells *In Vitro*
Nobuyuki Shitara, Paul E. McKeever, Barry H. Smith, Rogers E. Pleasants, Maurice A. Banks, and Paul L. Kornblith
- 54 Metabolic Fate of ^{14}C -Labeled Glutamate in Astrocytes in Primary Cultures
Albert C. Yu, Arne Schousboe, and Leif Hertz
- 61 γ -Aminobutyric Acid Can Both Inhibit and Facilitate Dopamine Release in the Caudate Nucleus of the Rabbit
W. Reimann, A. Zumstein, and K. Starke
- 70 Effect of Kainic Acid, Glutamate, and Aspartate on CO_2 Production by Goldfish Tectal Slices
Paolo Migani, Alessandro Poli, Antonio Contestabile, Rosanna Bissoli, Giuliana Cristini, and Ottavio Barnabei
- 76 Striatal Dopamine Release *In Vitro*: A β -Adrenoceptor-Regulated Response Not Mediated Through Cyclic AMP
Terry Reisine, Marie-Francoise Chesselet, and Jacques Glowinski
- 82 Purification and Characterization of Bovine Brain 5'-Nucleotidase
Josefa Mallol Montero and Jorge Bozal Fes
- 90 Determination of Dopamine and Its Acidic Metabolites in Brain Tissue by HPLC with Electrochemical Detection in a Single Run After Minimal Sample Pretreatment
Cees Van Valkenburg, Ubbo Tjaden, Jacques Van der Krogt, and Bram Van der Leden
- 998 Competitive Inhibition of γ -Aminobutyric Acid Synaptosomal Uptake by 4-(4'-Azidobenzoimidylamino)butanoic Acid
Godfrey Tunnicliff and That T. Ngo
- 1001 Effect of Nucleotides and Other Inhibitors on the Inactivation of Glutamate Decarboxylase
David L. Martin and Sandra B. Martin
- 1009 Contribution of Sulfate Conjugation, Deamination, and O-Methylation to Metabolism of Dopamine and Norepinephrine in Human Brain
A. Jennifer Rivett, Barbara J. Eddy, and Jerome A. Roth
- 1017 Fatty Acid Incorporation in Normal and Degenerating Rat Sciatic Nerve *In Vivo*
Arnulf H. Koeppen, John D. Papandrea, and Edward J. Mitzen
- 1028 Neurochemical Studies on the Cerebellar Hypoplasia of Gunn Rat (Hereditary Hyperbilirubinemic Rat)
Katsuhiko Mikoshiba, Kimio Akagawa, Ken Takamatsu, and Yasuzo Tsukada
- 1033 Quantitative Analysis of Axonal Transport of Cytoskeletal Proteins in Chicken Oculomotor Nerve
G. Filliatreau and L. Di Giambardino
- 1038 Multiple Molecular Forms of Acetylcholine Receptors in Cultured Skeletal Muscle Cells: Subcellular Localization and Characterization
Hiroyuki Sugiyama, Yukiko Yamashita, and Fujio Murakami
- 1047 Cytochrome Reductase Activities in Rat Brain Microsomes During Development
Masazumi Takeshita, Mayumi Miki, and Toshitsugu Yubisui
- 1050 An Amphiphile-Dependent Form of Human Brain Caudate Nucleus Acetylcholinesterase: Purification and Properties
K. Sørensen, R. Gentinetta, and U. Brodbeck
- 1061 Artfactual Increases in the Concentration of Free GABA in Samples of Human Cerebrospinal Fluid Are Due to Degradation of Homocarnosine
J. Grove, P. J. Schechter, G. Tell, L. Rumbach, C. Marescaux, J.-M. Warter, and J. Koch-Weser
- 1066 Purification and Properties of Bovine Brain Dopamine β -Hydroxylase
Hiroaki Matsui, Chosaburo Yamamoto, and Toshiharu Nagatsu
- 1072 Cerebellar Hypoplasia in Gunn Rats: Effects of Bilirubin on the Maturation of Glutamate Decarboxylase, Na,K-ATPase, 2',3'-Cyclic Nucleotide 3'-Phosphohydrolase, Acetylcholine and Aryl Esterase, Succinate and Lactate Dehydrogenase, and Arylsulfatase Activities
Eiko Aoki, Ritsuko Katoh-Semba, and

- 1081 Enkephalin Dipeptidyl Carboxypeptidase (Enkephalinase) Activity: Selective Radioassay, Properties, and Regional Distribution in Human Brain
C. Llorens, B. Malfroy, J. C. Schwartz, G. Gacel, B. P. Roques, J. Roy, J. L. Morgat, F. Javoy-Agid, and Y. Agid
- 1090 Limited Digestion of Guinea Pig Myelin Basic Protein and Its Carboxy-Terminal Fragment (Residues 89–169) with *Staphylococcus aureus* V8 Protease
Gladys E. Deibler, Kohji Nomura, and Marian W. Kies
- 1101 Effects of Monensin on Assembly of P₀ Protein into Peripheral Nerve Myelin
Raymond N. Rapaport, Joyce A. Benjamins, and Robert P. Skoff
- 1111 Activation of Ethanolamine Phospholipase A₂ in Brain During Ischemia
Alan D. Edgar, Joanna Strosznajder, and Lloyd A. Horrocks
- 1117 Biochemical and Morphological Comparison of Postsynaptic Densities Prepared from Rat, Hamster, and Monkey Brains by Phase Partitioning
James W. Gurd, Phillip Gordon-Weeks, and W. Howard Evans
- 1125 Specific Muscarinic-Cholinergic Desensitization in the Neuroblastoma-Glioma Hybrid NG108-15
David A. Green and Richard B. Clark
- 1132 Studies on the Biosynthesis of Intermediate Filament Proteins in the Rat CNS
Paola Strocchi, D. Dahl, and Jeffrey M. Gilbert
- 1142 Inhibition of [³H]Diazepam and [³H]3-Carboethoxyβ-Carboline Binding by Irazepine: Evidence for Multiple "Domains" of the Benzodiazepine Receptor
Phil Skolnick, Margaret Schweri, Eberhard Kutter, Evan Williams, and Steven Paul
- 1147 The Differential Effects of GABA-Transaminase Inactivation in the Chick Retina and Brain

- 1152 Biosynthesis of Biopterin by Rat Brain
Gregory Kapatos, Setsuko Katoh, and Seymour Kaufman
- 1163 Maternal Dietary Fat and Polyunsaturated Fatty Acids in the Developing Foetal Rat Brain
Marilla A. Samulski and Brian L. Walker
- 1169 Selective Stimulation of Neurotransmitter Release from Chick Retina by Kainic and Glutamic Acids
Ricardo Tapia and Clorinda Arias
- 1179 Multiple Molecular Forms of Dopamine β-Hydroxylase in the C₁₃₀₀ Mouse Neuroblastoma Tumor and in the Serum of Tumor-Bearing Mice
Norbert H. Fraeyman, Eric J. Van de Velde, Frits H. De Smet, and André F. De Schaepdryver

SHORT COMMUNICATIONS

- 1185 Inhibition by L-Phenylalanine of Tyrosine Transport by Synaptosomal Plasma Membrane Vesicles: Implications in the Pathogenesis of Phenylketonuria
M. C. Aragón, C. Giménez, and F. Valdivieso
- 1188 Concentrations of GABA and Other Amino Acids in CSF from Torsion Dystonia Patients
Thomas L. Perry, Shirley Hansen, Niall Quinn, and C. David Marsden
- 1192 Analysis by Transfer Electrophoresis of Reactivity of IgG with Brain Proteins in Multiple Sclerosis
J. Newcombe, P. Glynn, and M. L. Cuzner
- 1195 Regulation of Cyclic AMP Accumulation in a Rat Sympathetic Ganglion: Effects of Vasoactive Intestinal Polypeptide
Robert L. Volle and Brian A. Patterson
- 1198 Cyclocreatine Phosphate, an Analogue of Creatine Phosphate, Does not Improve Hypoxic Tolerance in Mice
Alan A. Artru and John D. Michenfelder
- 1201 BOOK REVIEW
- 1202 ANNOUNCEMENTS
- 1203 CALENDAR OF EVENTS

- 1205 Arylsulphatase C and Estrone Sulphatase of Sheep Hypothalamus, Preoptic Area, and Midbrain: Separation by Hydrophobic Interaction Chromatography and Evidence for Differences in Their Lipid Environment
Joy Mathew and A. S. Balasubramanian

- 1210 P-31 Nuclear Magnetic Resonance Analysis of Brain: The Perchloric Acid Extract Spectrum
Thomas Glonek, Stephen J. Kopp, Eva Kot, Jay W. Pettegrew, William H. Harrison, and Maynard M. Cohen

- 220 Composition and Subcellular Distribution of Glycoproteins and Glycosaminoglycans Undergoing Axonal Transport in Garfish Olfactory Nerves
John S. Elam
- 230 S-Adenosylmethionine Decarboxylase Levels in Rat Retina During Postnatal Development
P. Ruggeri, G. De Luca, A. Crisafulli, S. Macaione, R. M. Di Giorgio, and R. Ientile
- 235 Dysmyelination of Shiverer Mutant Mice In Vivo and In Vitro
Kazuhiro Nagaike, Katsuhiko Mikoshiba, and Yasuzo Tsukada
- 242 Receptors for Vasoactive Intestinal Polypeptide on Isolated Synaptosomes from Rat Cerebral Cortex. Heterogeneity of Binding and Desensitization of Receptors
Poul Staun-Olsen, Bent Ottesen, Paul D. Bartels, Morten H. Nielsen, Steen Gammeltoft, and Jan Fahrenkrug
- 252 Bulk Preparation of CNS Cytoskeleton and the Separation of Individual Neurofilament Proteins by Gel Filtration: Dye-Binding Characteristics and Amino Acid Compositions
Fung-Chow Chiu and William T. Norton
- 261 Myelin-Associated Glycoprotein Is the Antigen for a Monoclonal IgM in Polyneuropathy
Peter E. Braun, Donald E. Frail, and Norman Latov
- 266 Immunological Studies of Human Monoamine Oxidases
G. K. Brown, J. F. Powell, and I. W. Craig
- 271 A Single Radioimmunological Assay for Serotonin, N-Acetylserotonin, 5-Methoxytryptamine, and Melatonin
M. R. Geffard, J. J. Puizillout, and M. A. Delaage
- 278 Basic Proteins of Rodent Peripheral Nerve Myelin: Immunochemical Identification of the 21.5K, 18.5K, 17K, 14K, and P₂ Proteins
S. Greenfield, M. J. Weise, G. Gantt, E. L. Hogan, and S. W. Brostoff
- 283 Effect of Age on Variables Influencing the Supply of Tryptophan to the Brain
G. S. Sarna, M. D. Tricklebank, B. D. Kantamaneni, A. Hunt, A. J. Patel, and G. Curzon
- 291 Enzyme Immunoassay of the Myelin Basic Protein
Y. Shinomiya, N. Kato, M. Imazawa, and K. Miyamoto
- 297 Effects of Nutritional Rehabilitation on the Content and Lipid Composition of Brain Gray and White Matter of Neonatally Undernourished Rats
T. Sanjeeva Reddy, R. Rajalakshmi, and C. V. Ramakrishnan
- 1302 Intrinsic Protein Phosphorylation in Synaptosomal Plasma Membrane Fragments: A Comparison of Cerebral Cortex Tissue from Several Species, Including Human Biopsy Specimens
Luis Martinez-Millan and Richard Rodnight
- 1308 Modification of Brain Mitochondrial Enzymes by the Oxygen Analogue of Ronnel at Various Stages of Development and Aging
Dariusz Sitkiewicz, Maria Skonieczna, Tatiana Rychla, Danuta Gaździk, Stefania Podymniak, and Włodzimierz Bicz
- 1314 Glycosylceramide Synthesis in the Developing Spinal Cord and Kidney of the Twitcher Mouse, an Enzymatically Authentic Model of Human Krabbe Disease
Soichi Kodama, Hideki Igisu, Donald A. Siegel, and Kunihiro Suzuki
- 1319 Glycine Antagonists Structurally Related to Muscimol, THIP, or Isoguvacine
P. Krosgaard-Larsen, H. Hjeds, D. R. Curtis, J. D. Leah, and M. J. Peet
- 1325 The Functional Significance of the Pentose Phosphate Pathway in Synaptosomes: Protection Against Peroxidative Damage by Catecholamines and Oxidants
J. S. Hotherhall, A. L. Greenbaum, and P. McLean
- 1333 Conjugated Dopamine in Superfusates of Slices of Rat Striatum
Gertrude M. Tyce and Duane K. Rorie
- 1340 Synaptic Membrane Antigens in Developing Rat Brain Cerebral Cortex and Cerebellum
S. P. Mahadik, A. Korenovsky, V. Ciccarone, and H. Laev
- 1348 Axonal Transport and Metabolism of Glycoproteins in Rat Sciatic Nerve
Arrel D. Toews, Barry F. Saunders, and Pierre Morell
- 1356 A Radioimmunoassay for the Myelin-Associated Glycoprotein
David Johnson, Richard H. Quarles, and Roscoe O. Brady
- 1363 [³H]Dopamine Labeling of D₃ Dopaminergic Sites in Human, Rat, and Calf Brain
Stephen J. List and Philip Seeman
- 1374 Effects of Na⁺, Ca²⁺, and Acetylcholine on Phosphoinositide- and ATP-Phosphate Turnover in ³²P-Labeled Rabbit Iris Smooth Muscle
Rashid A. Akhtar and Ata A. Abdel-Latif
- 1381 High Specific Binding of [³H]GABA and [³H]Muscimol to Membranes from

- Dendrodendritic Synaptosomes of the Rat Olfactory Bulb
Michael R. Quinn and Robert H. Cagan
- 1387 Phosphoproteins of the Adrenal Chromaffin Granule Membrane
Robert D. Burgoyne and Michael J. Geisow
- 1397 Basic Protein in Brain Myelin Is Phosphorylated by Endogenous Phospholipid-Sensitive Ca^{2+} -Dependent Protein Kinase
R. Scott Turner, C.-H. Jen Chou, Robert F. Kibler, and J. F. Kuo
- 1405 Acetylcholine Release from Isolated Synaptic Vesicles Related to Ionic Permeability Changes: Continuous Detection with a Chemiluminescent Method
M. F. Diebler
- 1412 Normalization of Cerebellar RNA Synthesis and mRNA Levels After Treatment of Graft Versus Host Disease
W. Sue T. Griffin, B. Joy Snider, and Marcelle R. Morrison
- 1418 Distribution and Localization of Estrogen-Sensitive Dopamine Receptors in the Rat Brain
Robert E. Hruska and Karen T. Pitman
- 1424 The Independency of Choline Transport and Acetylcholine Synthesis
R. M. Marchbanks and P. D. Kessler
- 1434 Developmental Changes in Glycolipid Synthesizing Enzymes in the Brain of a Myelin-Deficient Mutant Wistar Rat
Liselotte Hof and Charles K. Csiza
- 1440 High-Affinity Choline Uptake in the Hippocampus: Its Relationship to the Physiological State Produced by Administration of Barbiturates and Other Treatments
Judith A. Richter, Joanne M. Gormley, Joseph R. Holtman, Jr., and Jay R. Simon
- 1446 Ethylenediamine and GABA Potentiation of [^3H]Diazepam Binding to Benzodiazepine Receptors in Rat Cerebral Cortex
P. F. Morgan and T. W. Stone
- 1452 Neurochemical Studies of the Mesolimbic Dopaminergic Pathway: [^3H]Spiperone Labels Two Binding Sites in Homogenates of the Nucleus Accumbens of Rat Brain
P. M. Beart and Danielle McDonald
- 1461 Biochemical Characterisation and Localization in Brain of a Human Brain-Leucocyte Membrane Glycoprotein Recognised by a Monoclonal Antibody
Judith L. McKenzie, Rosemarie Dalchau, and John W. Fabre
- 1467 Subcellular Distribution of Axonally Transported Adenylate Cyclase: Effect of Nerve Constriction and Comparison with Acetylcholinesterase
Richard C. Carlsen and Lana J. Anderson
- SHORT COMMUNICATIONS
- 1478 Differential Effects of Long-Term Electroconvulsive Shock on Brain Levels of Enkephalin and Humoral-Endorphin
Y. Sarne, B. A. Weissman, and G. Urca
- 1481 Noncorrelation of Choline Kinase or ATP Citrate Lyase with Cholinergic Activity in Rat Brain
S. A. K. Harvey, S. F. Leong, and J. B. Clark
- 1485 Actions of *Ptychodiscus brevis* Red Tide Toxin on Metabolic and Transmitter-Releasing Properties of Synaptosomes
M. Risk, P. J. Norris, J. Coutinho-Netto, and H. F. Bradford
- 1489 Cerebral Glutamic Acid Decarboxylase Activity and γ -Aminobutyric Acid Concentrations in Mice Susceptible or Resistant to Audiogenic Seizures
C. C. Sykes and R. W. Horton
- 1492 Differential Expression of Type A and Type B Monoamine Oxidase of Mouse Astrocytes in Primary Cultures
P. H. Yu and L. Hertz
- 1496 Chronic Manganese Treatment of Rats Alters Synaptosomal Uptake of Dopamine and the Behavioural Response to Amphetamine Administration
Thomas K. C. Leung, James C. K. Lai, Mark Tricklebank, Alan N. Davison, and Louis Lim
- 1500 BOOK REVIEWS
- 1505 CALENDAR OF EVENTS
- 1506 ANNOUNCEMENTS

- 1507 The Benzodiazepine/GABA Receptor Complex: Molecular Size in Brain Synaptic Membranes and in Solution
Li-Ren Chang and Eric A. Barnard

- 1519 Serotonin-Containing Neurones in Vertebrate Retinas
N. N. Osborne, T. Nesselhut, D. A. Nicholas, S. Patel, and A. C. Cuell

- 629 Characterization of Postmortem Human Brain Proteins by Two-Dimensional Gel Electrophoresis
Kenneth S. Kosik, Jeffrey M. Gilbert, Dennis J. Selkoe, and Paola Strocchi
- 639 Biosynthesis of Somatostatin-Like Immunoreactivity by Frog Retinas *In Vitro*
Tadataka Yamada and Scott Basinger
- 647 Composition and Metabolism of Gangliosides in Rat Peripheral Nervous System During Development
K. H. Chou, C. E. Nolan, and F. B. Jungalwala
- 659 *In Vitro* Synthesis of the Four Mouse Myelin Basic Proteins: Evidence for the Lack of a Metabolic Relationship
Yie-Teh Yu and Anthony T. Campagnoni
- 669 Axonal Transport of Choline Lipids in Normal and Regenerating Rat Sciatic Nerve
R. M. Gould, W. D. Spivack, R. S. Sinatra, T. D. Lindquist, and N. A. Ingoglia
- 679 Solubilization by CHAPS Detergent of Barbiturate-Enhanced Benzodiazepine-GABA Receptor Complex
F. Anne Stephenson and Richard W. Olsen
- 687 Stimulation of Tubulin-Dependent ATPase Activity in Microtubule Proteins from Porcine Brain by Vinblastine
Toshihiro Fujii, Yoshiyuki Kondo, Michiyo Kumasaka, and Kosuke Ohki
- 694 Rapid Cellular Regulation of D-Glucose Transport in Cultured Neural Cells
Klaus Lange, Konrad Keller, Wolf-Dieter Ludwig, Ingrid Monden, Ingeborg Reinsch, and Ursula Brandt
- 601 Rat Brain α -Mannosidase: Purification, Properties, and Interaction with Its Antibodies
J. P. Zanetta, A. Meyer, M. Dontenwill, P. Basset, and G. Vincendon
- 607 Purification and Characterization of a Ca^{2+} - and Calmodulin-Dependent Protein Kinase from Rat Brain
Kohji Fukunaga, Hideyuki Yamamoto, Kazuo Matsui, Kenji Higashi, and Eishichi Miyamoto
- 618 Concentration Gradients of Free and Total γ -Aminobutyric Acid and Homocarnosine in Human CSF: Comparison of Suboccipital and Lumbar Sampling
Jeffrey Grove, Paul J. Schechter, N. F. J. Hanke, Yves de Smet, Yves Agid, Guy Tell, and Jan Koch-Weser
- 623 Age-Related Loss of Dopaminergic Binding Sites in Human Basal Ganglia
J. A. Severson, J. Marcusson, B. Winblad, and C. E. Finch
- 1632 Activation of Retinal Tyrosine Hydroxylase *In Vitro* by Cyclic AMP-Dependent Protein Kinase: Characterization and Comparison to Activation *In Vivo* by Photostimulation
P. M. Iuvone, A. L. Rauch, P. B. Marshburn, D. B. Glass, and N. H. Neff
- 1641 Calcium-Activated ATPases in Presynaptic Nerve Endings
Shih-chia C. Lin and E. Leong Way
- 1652 Immunochemical Studies of Bovine and Human Choline-O-Acetyltransferase Using Monoclonal Antibodies
A. I. Levey, D. B. Rye, and B. H. Wainer
- 1660 Origin of the Bicarbonate Stimulation of *Torpedo* Electric Organ Synaptic Vesicle ATPase
Joan E. Rothlein and Stanley M. Parsons
- 1669 Opiate Receptor-Mediated Inhibition of Catecholamine Release in Primary Cultures of Bovine Adrenal Chromaffin Cells
Laura Saiani and Alessandro Guidotti
- 1677 Alterations of Lipid Metabolism in Response to Nerve Growth Factor
Alexis E. Traynor, David Schubert, and W. Ross Allen
- 1684 Myelin Lipids in the Developing Cerebrum, Cerebellum, and Brain Stem of Normal and Undernourished Children
Manuela Martínez
- 1693 Factors Contributing to the Poor Myelination in the Brain of the Snell Dwarf Mouse
Tetsuya Noguchi, Tetsuro Sugisaki, Ken Takamatsu, and Yasuzo Tsukada
- 1700 Peptide Mapping Studies of the Chromogranins and of Two Chromaffin Granule Proteoglycans
Sila Banerjee and Richard U. Margolis
- 1704 Exogenous Choline Enhances the Synthesis of Acetylcholine Only Under Conditions of Increased Cholinergic Neuronal Activity
Brad A. Trommer, Dennis E. Schmidt, and Lynn Wecker
- 1710 Combined Effects of a Metabolic Inhibitor (Gabaculine) and an Uptake Inhibitor (Ketamine) on the γ -Aminobutyrate System in Mouse Brain
J. D. Wood, J. W. Geddes, S.-K. Tsui, and E. Kurylo
- 1716 Comparison of the Kinetics of

- [³H]Diazepam and [³H]Flunitrazepam
Binding to Cortical
Synaptosomal Membranes
Ted H. Chiu and Howard C. Rosenberg
- 1726 Postnatal Development of the
Acetylcholine System in Different Parts
of the Rat Cerebellum
*P. Kása, K. Bánsághy, Z. Rakonczay,
and K. Gulya*
- SHORT COMMUNICATIONS
- 1733 Method for Lyophilizing Brain Proteolipid
Preparations That Increases Subsequent
Solubilization by Detergents
*J. S. Aguilar, M. de Cózar, M. Criado,
and J. Monreal*
- 1737 Glycosylation of Proteins in Developing
Human Brain
*Tarja Korpeinen, I. Mononen, T. Krusius,
and J. Järnefelt*
- 1740 Comparative Studies of Fresh and
Postmortem Isolated Rat Cortical
Synaptosomes: Morphology, K⁺
Transport, and Respiration
Mihály Kálmán and Ferenc Hajós
- 1743 A Search for Discrete Cholinergic Nuclei
in the Human Ventral Forebrain
Peter Davies and Sophia Feisullin
- 1748 A Developmental Study of
Neuron-Specific Enolase in Rat
Adrenal Medulla
Stanley A. Vinores and Paul J. Marangos
- 1751 An Improved Filtration Procedure for
Measuring Opiate Receptors in Small
Regions of Rat Brain
*M. T. Bardo, R. K. Bhatnagar, and
G. F. Gebhart*
- 1755 *In Vivo* Incorporation of
[³²P]Orthophosphate into Myelin Basic
Protein of Developing Rabbit Brain: Its
Location in Components 3 and 5 and in
a New Protein Tentatively Identified as
Basic Protein Component 7
*Harish C. Agrawal, Russell E. Martenson,
and Daya Agrawal*
- 1759 The Complete Amino Acid Sequence of
Human P2 Protein
*Masaru Suzuki, Kunio Kitamura,
Yasushi Sakamoto, and
Keiichi Uyemura*
- 1763 Thyrotrophin-Releasing Hormone
Analogues Increase Dopamine Release
from Slices of Rat Brain
*Trevor Sharp, Geoffrey W. Bennett, and
Charles A. Marsden*
- 1767 The Ontogeny of Acetylcholinesterase
Activities in Rat Brain Regions and the
Effect of Chronic Treatment with
Manganese Chloride
*James C. K. Lai, Thomas K. C. Leung,
and Louis Lim*
- 1770 Postnatal Developmental Changes in
Fucosyltransferase Activity in
Rat Brain
*Monique Léon, Pierre Broquet,
Renée Morélis, and Pierre Louisot*
- 1774 MATTERS ARISING
- 1777 ANNOUNCEMENTS
- 1778 CALENDAR OF EVENTS
- 1779 AUTHOR INDEX
- 1782 SUBJECT INDEX